



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,569	10/24/2003	Claudio R. Laraia	ICN001	2156
34496	7590	11/29/2007		
RICHARD C. CALDERWOOD			EXAMINER	
2775 NW 126TH AVE			PAUL, DISLER	
PORTLAND, OR 97229-8381			ART UNIT	PAPER NUMBER
			2615	
			MAIL DATE	DELIVERY MODE
			11/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/693,569	LARAIA, CLAUDIO R.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Disler Paul	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____                                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____   | 6) <input type="checkbox"/> Other: ____                           |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, filed 9/28/07, with respect to the rejection(s) of claim(s) wherein having the control unit and the head unit and separately have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yasuhara.

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,7-8,10-13,24,26-27,30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhara (US 2003/00553638) and Reynolds et al. (5,444,868).

Re claim 1, Yasuhara discloses a car audio amplifier system for use with a head unit of an automobile system ("Fig.1,3,9") comprising: a control unit physically separated from the head unit and an amplifier unit and coupled to the head unit ("fig.1 with (14,3,7-9); fig.9 with (14,2,89)") including: at least one input connector for receiving at least one respective channel of audio signal from the

head unit ("fig.1 (7-9,14)/controller for receiving source from head unit") ; at least one control for determining a characteristic of the modifying "fig.1/(7,14)"; and at least one output connector for outputting the modified audio signal ("fig.1 with (7,12,13)10-11")'

While, Yasuhara disclose of the above, However, He fail to disclose of the limitation wherein the control unit is physically separated from the amplifier but coupled to the control unit. However, Reynolds disclose of a system wherein the control unit is physically separated from the amplifier but coupled to the control unit ("fig.1A, fig.2;col.5 line 23-30") for purpose of forming an integrated radio system. Thus, taking the combined teaching of Yasuhara and Reynold as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify Yasuhara by incorporating the control unit is physically separated from the amplifier but coupled to the control unit for purpose of forming an integrated radio system.

The combined teaching of Yasuhara and Reynold as a whole, further teach of the amplifier having an input connector for receiving the modified audio signal output from the control unit ("Reynold,fig.1 with (22,14), fig.2), and an output connector for outputting the amplified modified audio signal to a loudspeaker ("fig.9 with (10,11); page 6 par[0078]").

Re claim 10, the car audio amplifier system of claim 1, wherein the amplifier unit comprises a docking bay adapted for docking the control unit ("fig.1A, fig.2;col.5 line 23-30").

Re claim 7, the car audio amplifier system of claim 1 wherein: all of the controls of the audio amplifier system are located on the control unit ("fig.1-(3,14)").

Re claim 8, the car audio amplifier system of claim 1 wherein the characteristic comprises gain ("fig.1 wt (9); page 3 par[0038]").

Re claim 11, the car audio amplifier system of claim 10 wherein: the docking bay comprises an input connector adapted to mate with the output connector of the control unit when the control unit is docked ("fig.2/input connector(28) with control output connector(27)and also see fig.1B-adaptor for (16-control head) and the (14-power amplifier)").

Re claim 12, Yasuhara disclose of the amplifier system for use in a vehicle which include a passenger compartment having a head unit providing a plurality of audio channels ("fig.1,9") the amplifier

system comprising, a control unit adapted to mount in the passenger compartment, and comprising a control unit input connector for receiving the plurality of audio channel signals from the head unit (fig.1 wt (3,14,7-9);fig.9 with (14,2,89)""); and a plurality of audio controls including at least a gain control (fig.1 wt (9),14/to perform gain signal adjustment); and circuitry coupled to the control unit input connector, for modifying the plurality of audio signals in response to setting of the control (fig.9 wt (2,87)) and a control unit output connector for outputting the plurality of modified audio signals (fig.9 wt (5,10,11)).

However, Yasuhar fail to disclose of the amplifier and further wherein the amplifier input connector coupled to the control unit output connector to receive the modified audio signal. But, Reynolds disclose of a system for used in a car wherein the amplifier and further wherein the amplifier input connector coupled to the control unit output connector to receive the modified audio signal (fig.1-2 wt (16,14)) for the purpose of forming an integrated radio system. Thus, taking the combined teaching of Yasuhara and Reynolds as a whole, it would have been obvious for one of the ordinary skill in the art to have modify Yasuhara by incorporating the amplifier and further wherein the amplifier input connector coupled to the control unit output connector to receive the modified audio signal for the purpose of forming an integrated radio system.

The combined teaching of Yasuhara and Reynolds as a whole, further teach of the amplifier circuitry coupled to the amplifier input connector for amplifying the modified (fig.1-2 wt (14)) and the speaker terminal coupled to the amplifier circuitry for outputting the amplified modified audio signals (Reynolds, fig.9 wt (10,11)).

Re claim 13, the amplifier system of claim 12 further comprising: a cable coupling the amplifier input connector to the control unit output connector ("Reynold, fig.2/27; col.5 line 50-55 ").

Re claim 24, the amplifier system of claim 12 wherein: the amplifier unit includes a docking bay into which the control unit can be docked; and means for connecting the control unit output connector to the amplifier input connector ("Reynold, col.5 line 39-35").

Re claim 26 Yasuhara disclose of method whereby a person adjust the audio characteristic of an audio system, the audio system having a head unit ,a control unit coupled to the head unit , and loudspeaker coupled to an amplifier, all channels gain controls for the amplifier being located on the control unit, wherein the head unit, the control unit and the loudspeakers are located within a passenger compartment

of a vehicle (fig. 1,9 wt (head unit, incorporated with amplifier) and controller), the method comprising:

Being positioned within a passenger compartment; operating the head unit to provide a plurality of audio channels signals to the control unit (fig.1 wt (2,4); fig.9 (2)), while listening to the sound produced by the loudspeakers which are driven by the amplifier according to modified audio channel signals from the control unit (fig.1 wt (10-11/ with speakers in car). adjusting the control on the control unit to control a modification by the control unit of one of the audio channel signals provided by the head unit until a desired acoustic result is obtained by such adjusting (fig.1 wt (14,3,7-0).

However, Yasuhara fail to disclose of the having an external amplifier unit with the system, wherein the external amplifier coupled to the control unit. But, Reynolds disclose of a system for used in a car wherein having the external amplifier and further wherein the amplifier input connector coupled to the control unit output connector to receive the modified audio signal (fig.1-2 wt (16,14)) for the purpose of forming an integrated radio system. Thus, taking the combined teaching of Yasuhara and Reynolds as a whole, it would have been obvious for one of the ordinary skill in the art to have modify Yasuhar by incorporating the amplifier and further wherein the amplifier input connector coupled to the control unit output connector



to receive the modified audio signal for the purpose of forming an integrated radio system.

Re claim 27, the method of claim 26 wherein: adjusting the control comprises adjusting a channel gain control (fig.1 wt [14]/to perform gain volume control").

Re claim 30, the method of claim 26 further comprising: removing the control unit from the passenger compartment; and docking the control unit into a docking bay on the external Amplifier ("Reynolds, Fig.2").

3. Claims 2,5, 14-19, 21,25,28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhara (US 2003//0053638 A1) and Reynolds et al. (5,444,868) and further in view of Applicant's admitted prior art refer to as AAPA.

Re claim 2, the car audio amplifier system of claim 1 with the control unit, However, Yasuhara fail to disclose of the limitation wherein: the circuitry of the control unit includes a pre-amplifier, But, AAPA disclose of a system wherein the control unit include a pre-amplifier (page 1 par[0004] line 5-8) for the purpose of strengthening the weak signals suitable line level signal. Thus, taking the combined teaching of Yasuhara and AAPA as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention

to have modify Yasuhara by incorporating the circuitry of the control unit includes a pre-amplifier, But, APPA disclose of a system wherein the control unit include a pre-amplifier for the purpose of strengthening the weak signals suitable line level signal.

Re claim 5, the car audio amplifier system of claim 1 with the external amplifier unit and connector attached (reynold, fig.2), However, the combined teaching of Yasuhara and Reynold as a whole, fail to disclose of the limitation wherein: the amplifier unit includes a plurality of input connectors; and the amplifier circuitry amplifies audio signals provided at a selected one of the plurality of input connectors. However, APPA disclose of the amplifier system wherein the amplifier unit includes a plurality of input connectors; and the amplifier circuitry amplifies audio signals provided at a selected one of the plurality of input connectors (fig.1-2) for the purpose of creating optimal sound output, thus taking the combined teaching of Yasuhara and Reynold and APPA as a whole, it would have been obvious for one of the ordinary skill in the art to have modify the combined teaching of Yasuhara and Reynold as a whole, by incorporating the amplifier unit includes a plurality of input connectors; and the amplifier circuitry amplifies audio signals provided at a selected one of the plurality of input connectors for the purpose of creating optimal sound output.

Re claim 14, the amplifier system of claim 13 wherein having connector (see, fig.1-2), However, the combined teaching of Yasuhara and Reynolds as a whole, fail to disclose of the amplifier output connector comprises a DIN connector and the control unit having a din connector, However, APPA disclose of a system wherein the amplifier output comprises a din connector ("fig.4/38"), for the purpose of interconnecting/attaching the head unit to the external amplifier. Thus, taking the combined teaching of Yasuhara and Reynolds and APPA as a whole, it would have been obvious for one of the ordinary skill in the art at the time of the invention to have modify the combined teaching of Yasuhara and Reynolds as a whole, by incorporating the amplifier output comprises a din connector for the purpose of interconnecting/attaching the head unit to the external amplifier. The combined teaching of Yasuhara and Reynolds and APPA as a whole, fail disclose of the cable comprises the specific a DIN umbilical cable. However, Official Notice is taken that the limitation of having a DIN umbilical cable is commonly known, thus it would have been obvious for one of ordinary skill in the art to have such DIN umbilical cable or purpose of coupling the input to the output DIN Connector.

Re claim 15, the amplifier system of claim 12 wherein the plurality of controls comprises all of the amplifier system's gain controls ("fig.1-(3,14)")

Re claim 16, the amplifier system of claim 12 with the external amplifier (see reynold, Fig.2), However, the combined teaching of Yasuhara and Reynolds as a whole, fail to disclose of the wherein the plurality of controls for the amplifier further includes a filter control, However, AAPA disclose of an external amplifier wherein the plurality of controls for the amplifier further includes a filter control (page 1 par[0009]) for the purpose of creating optimal sound output. thus, taking the combined teaching of Yasuhara and Reynolds and AAPA as a whole, it would have been obvious for one of the ordinary skill in the art to have modify the combined teaching of Yasuhara and Reynolds as a whole, by incorporating the external amplifier wherein the plurality of controls for the amplifier further includes a filter control for the purpose of creating optimal sound output.

Re claim 17, the amplifier system of claim 16, however, the combined teaching of Yasuhara and Reynolds and AAPA as a whole, fail to disclose the plurality of control comprises a delay control.

However, Official Notice is taken that having a delay control in an amplifier is commonly known, therefore it would have been obvious for one of ordinary skill in the art to have plurality of control comprises a delay control for purpose of achieving optimal setting.

Re claim 18, with respect to phase control has been analyzed and rejected with respect to claim 17.

Re claim 19, the amplifier system of claim 18 wherein the plurality of controls further includes a bass boost control (*"fig.1/22; page 1[0004] line 13-15"*).

Re claim 21, the amplifier system of claim 12, However, the combined teaching of Yasuhara and Reynolds as a whole, fail to disclose of the wherein the plurality of controls further includes a multi-channel equalizer, However, AAPA disclose of an external amplifier wherein the plurality of controls further includes a multi-channel equalizer (*"page 1[0004] line 16-17"*) for the purpose of creating optimal sound output. Thus, taking the combined teaching of Yasuhara and Reynolds and AAPA as a whole, it would have been obvious for one of the ordinary skill in the art to have modify the combined teaching of Yasuhara and Reynolds as a whole, by incorporating the

wherein the plurality of controls further includes a multi-channel equalizer for the purpose of creating optimal sound output.

Re claim 25, the amplifier system of claim 12 with the external amplifier in the head unit with filter control channels (Reynold, fig.2), However, the combined teaching of Yasuhara and Reynolds as a whole, fail to disclose of the wherein the plurality of audio channel signals provided by the head unit includes Front Left, Front Right, Center, Rear Left, Rear Right, and Subwoofer audio channel signals, and wherein the plurality of controls comprises: Front gain, Front high pass filter, Center gain, Center high pass filter, Rear gain, Rear high pass filter, Subwoofer gain, Subwoofer low pass filter, Subwoofer phase and Subwoofer bass boost, However, APPA disclose of the system wherein having the plurality of audio channel signals provided by the head unit includes Front Left, Front Right, Center, Rear Left, Rear Right, and Subwoofer audio channel signals ("fig.4/30; page 1[0006] line 10-12"), and wherein the plurality of controls comprises: Front gain, Front high pass filter, Center gain, Center high pass filter, Rear gain, Rear high pass filter, Subwoofer gain, Subwoofer low pass filter, Subwoofer phase and Subwoofer bass boost ("page 1[0010] line 3-6; page 1[0004] line 16-20") for the purpose of creating optimal sound output. Thus, taking the combined teaching of Yasuhara and Reynolds and AAPA as a whole, it would have

been obvious for one of the ordinary skill in the art to have modify the combined teaching of Yasuhara and Reynolds as a whole, by incorporating the plurality of audio channel signals provided by the head unit includes Front Left, Front Right, Center, Rear Left, Rear Right, and Subwoofer audio channel signals, and wherein the plurality of controls comprises: Front gain, Front high pass filter, Center gain, Center high pass filter, Rear gain, Rear high pass filter, Subwoofer gain, Subwoofer low pass filter, Subwoofer phase and Subwoofer bass boost for the purpose of creating optimal sound output

However, APA's prior art fail to disclose the center plurality of control comprises a center delay, rear delay, Subwoofer subsonic filter, subwoofer parametric frequency. However, Official Notice is taken these limitations are commonly known/used in the art, therefore it would have been obvious for one of ordinary skill in the art to have plurality of control comprises a center delay, rear delay, Subwoofer subsonic filter, subwoofer parametric frequency for purpose of achieving optimal setting.

Re claim 28 has been analyzed and rejected with respect to claim 16.

Re claim 29, the method of claim 28 further comprising: selecting back and forth between audio signals provided by the head unit and

audio signals provided by an auxiliary unit ("page 1[0006] line 13-15"); and adjusting an input level adjustment control on the control unit ("fig.1/14"), to substantially equalize an audio volume produced in response to the audio signals provided by the head unit and an audio volume produced in response to the audio signals provided by the auxiliary unit ("fig.1/22-to equalized signals").

4. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhara (US 2003/0053638 A1) and Reynolds et al. ("5,444,868") and further in view of Koulopoulos et al. ("5,243,344").

Re claim 22, the amplifier system of claim 12 wherein the control unit further includes: an auxiliary input connector for receiving audio channel signals from an auxiliary unit ("fig.1/7-8") However, the combined teaching of Yasuhara and Reynold et al. as a whole, fail to disclose of the input selector control\_for selecting whether the circuitry modifies the audio channel signals from the input connector or the audio channel signals from the auxiliary input connector. However, Koulopoulos et al. disclose a digital to analog converter in which there is an input selector control for selecting between two inputs ("col. 14 line 45-55") for the purpose of accepting either digital audio data on coaxial cable or digital audio data in optical forms. Thus, taking the modified combined teaching of Yasuhara and



Reynold et al. and Koulopoulos et al as a whole, it would have been obvious to one of ordinary skill in the art to modify Yasuhara and Reynold et al. as a whole, by incorporating the input selector control for selecting between two inputs for the purpose of accepting either digital audio data on coaxial cable or digital audio data in optical forms.

Re claim 23, the amplifier system of claim 22 wherein the control unit further includes: input volume means for compensating for signal level difference between audio channel signals from the input connector and audio channel signals from the auxiliary input connector ("Fig.1/14;page1[0004] line 5-7"), whereby when a user switches between the head unit and the auxiliary unit by operating the input selector control, a difference in audio volume from the loudspeakers is controlled ("user switch as being the input selector in Koulopoulos, 'col. 14 line 45-55'").

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.

Application/Control Number:  
10/693,569  
Art Unit: 2615

Page 17

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DP

  
XU MEI  
PRIMARY EXAMINER